NASA Procedural Requirements

COMPLIANCE IS MANDATORY

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Subject: Safety and Mission Assurance (SMA) Requirements for Experimental Aerospace Vehicles (EAV) w/ Change 1 (3/30/04)

Responsible Office: Office of Safety and Mission Assurance

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CHAPTER 4. Verify SMA Process Implementation

4.1 Introduction

4.1.1 OSMA conducts an SMA PAR to confirm implementation, completion, and closure of processes which were identified in the SMA PRR and during SMA surveillance and verification activities. The SMA PAR focus is on flight readiness and operational assurance processes. The program/project will address the applicability of the elements listed in Table 2.

4.1.2 The SMA PAR is nominally held 90 to 120 days prior to flight operations. The SMA PAR should coincide with a programmatic review.

4.1.3 Particular emphasis is applied to the system safety program, including system level hazard analyses and risk mitigation. The SMA PAR relies on supporting data (e.g., signed/approved deliverables) to certify implementation of established SMA processes. The SMA PAR includes information from the safety review process that verifies public safety.

4.2 SMA PAR Protocol

a. The Associate Administrator for Safety and Mission Assurance (or designee) and the Enterprise Associate Administrator (or designee) schedule and determine the location for the review. The Associate Administrator for Safety and Mission Assurance (or designee) chairs the review.

b. OSMA (or designee) develops the agenda 4 to 6 weeks prior to the meeting.

4.3 Typical Presenters/Attendees at the SMA PAR

a. NASA program/project manager.

b. Flight vehicle prime contractor representative.

c. Each supporting Center SMA organization representative.

d. Range safety officials for the affected ranges and NASA range safety representatives.

e. Representatives from other involved NASA programs/projects such as the launch vehicles, expendable launch vehicles (ELV), Space Shuttle, or International Space Station programs.

f. Representatives from other cognizant state and/or Federal agencies.

4.4 SMA PAR Content/Agenda

The nominal agenda for the SMA PAR contains the following presentations and discussion items:

a. Objectives of the SMA PAR.

b. Mission program/project overview/schedule.

c. Demonstration of compliance with the applicable elements contained in paragraph 5.3 and a listing of open items or exceptions. (Note: Applicability is defined at the SMA PRR.)

d. Status of vehicle readiness for flight.

e. SMA organization results and conclusions of oversight and independent assessment of EAV program/project.

f. Review of mission success criteria.

4.5 SMA PAR Recommendations

4.5.1 Upon successful completion of the SMA PAR (and evaluation of final program/project, range, and FAA documents), the Associate Administrator for Safety and Mission Assurance will issue an assessment of vehicle flight readiness, subject to any final reviews, to the Enterprise Associate Administrator.

4.5.2 In the case of a request for third-party indemnification, the assessment will either support or not support the issuance of indemnification and the decision to become a risk-sharing partner with the developer.

4.5.3 Nominally, assessment letter will include:

a. Assurance that the safety of the public, astronauts and pilots, workforce, and high-value equipment and property will not be compromised.

b. Documentation that risks have been managed.

c. Documentation that mission assurance procedures and practices (i.e., design, manufacturing, test, and verification) are being followed.

d. Compliance with other Federal and state requirements (e.g., range safety, environmental protection, ground safety, and maritime transportation safety).

e. Verification of mitigation/disposition of all system safety issues identified in hazard analyses.

f. Verification of contingency planning processes.

g. Documentation of assurance process implementation by listing assurance activities and the key personnel involved with these activities.

h. Extent of independent assessments.

i. Documentation of assigned responsibility for the closure of any open items required for closure prior to flight.

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